

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

Claim 1 (Original): An apparatus for providing an *in vivo* assessment of loads on adjacent bones, said apparatus comprising:

a body for insertion between the adjacent bones;

at least one sensor associated with said body, said at least one sensor for generating an output signal in response to and indicative of a load being applied to said body through the adjacent bones; and

at least one telemetric device operatively coupled with said at least one sensor, said at least one telemetric device being operable to receive said output signal from said at least one sensor and to transmit an EMF signal dependent upon said output signal.

Claims 2-8 (Cancelled)

Claim 9 (Original): The apparatus of claim 1 wherein said body comprises a prosthetic device for preserving motion between adjacent bones.

Claims 10-77 (Cancelled)

Claim 78 (New): An apparatus for providing an *in vivo* assessment of loads on adjacent bones, said apparatus comprising:

 a body for insertion between the adjacent bones;
 a first sensor assembly located within said body, said first sensor assembly generating an output signal in response to and indicative of a load being applied to said body through the adjacent bones; and
 at least one telemetric device, remote from said first sensor assembly, said at least one telemetric device being operable to receive said output signal from said first sensor assembly and to transmit an EMF signal dependent upon said output signal.

Claim 79 (New): The apparatus of claim 78 wherein said first sensor assembly comprises a pressure sensor.

Claim 80 (New): The apparatus of claim 78 further comprising a second sensor assembly located within said body, said at least one telemetric device being located at said second sensor assembly.

Claim 81 (New): The apparatus of claim 80 wherein said second sensor assembly is operatively connected to said first sensor via a tube.

Claim 82 (New): The apparatus of claim 80 wherein said first sensor assembly is maintained in physical communication with an interior surface of said body.

Claim 83 (New): The apparatus of claim 78 further comprising an implant associated with the adjacent bones, said implant being external to said body.

Claim 84 (New): The apparatus of claim 83 wherein said implant is connected to the adjacent bones to stabilize the adjacent bones.

Claim 85 (New): The apparatus of claim 83 further comprising at least one strain gauge mounted on said implant, said at least one strain gauge for generating a second output signal in response to a load being applied to said implant, said at least one strain gauge being electrically connected with said at least one telemetric device.

Claim 86 (New): The apparatus of claim 83 wherein said at least one telemetric device is located on said implant.

Claim 87 (New): The apparatus of claim 86 wherein said at least one telemetric device is operatively connected to said first sensor via a tube such that said first sensor assembly is positioned inside a first end of said tube and a second end of said tube is attached to said implant.

Claim 88 (New): The apparatus of claim 87 wherein said tube is packaged with a biomolecular coating such that said tube is covered with a monolayer coating of a desired biomolecule.

Claim 89 (New): The apparatus of claim 88 wherein said the desired biomolecule comprises one of collagen and hyaluronan.

Claim 90 (New): The apparatus of claim 78 wherein said body comprises a prosthetic device for preserving motion between the adjacent bones.